

JUL 30 2008

Application No.: 10/823,239

Docket No.: JCLA12729

AMENDMENTIn The Claims:

Please amend the claims as follows:

Claim 1. (currently amended) A communicating apparatus, suitable for a telephone system, comprising:

a directional speaker, for transmitting a directional carrier wave to at least a user who keeps a distance from the directional speaker;

a receiver, for receiving at least an audio signal produced by [[a]]the user such that the directional carrier wave is not received by the receiver; and

a control unit, coupled to the directional speaker and the receiver, for transmitting an electrical audio signal received from a communicating network to the directional speaker, and for transforming the audio signal received from the receiver into an electrical audio signal and transmitting to the communicating network, wherein the control unit operates in a duplex method, and the control unit filters echo signals.

Claim 2. (original) The communicating apparatus as recited in claim 1, wherein the directional carrier wave includes an ultrasonic carrier wave, and wherein the ultrasonic carrier wave propagates along a predetermined direction within a predetermined range in the air.

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Claim 3. (original) The communicating apparatus as recited in claim 2, wherein the ultrasonic carrier wave is self-demodulated back to the audio signal through the air within the predetermined range.

Claim 4. (original) The communicating apparatus as recited in claim 3, wherein the receiver is spatially excluded from the predetermined range.

Claim 5. (original) The communicating apparatus as recited in claim 3, wherein the predetermined direction and a characteristic direction of the directional speaker form a solid angle smaller than about 30°.

Claim 6. (original) The communicating apparatus as recited in claim 1, wherein the directional speaker comprises a plurality of acoustic transmitting units.

Claim 7. (original) The communicating apparatus as recited in claim 6 further comprising:  
a pre-compensating unit, for receiving the audio signal and compensating the audio signal in a preceding stage and outputting a compensated audio signal;  
an ultrasonic wave modulating unit, for providing an ultrasonic carrier wave;  
an amplitude modulating unit, for receiving the compensated audio signal and receiving the ultrasonic carrier wave, such that the compensated audio signal is carried by the ultrasonic carrier wave; and

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a power amplifier, for receiving an output from the amplitude modulating unit.

Claim 8. (currently amended) A communicating apparatus, comprising:

an output module, for polarizing a remote audio signal so as to propagate the remote audio signal directionally in the air, such that at least a user who keeps a distance from the output module is able to receive the remote audio signal;

a receiving module, for receiving at least a local audio signal generated by [[a]]the user, wherein the remote audio signal is not received by the receiving module; and

a control unit, coupled to the output module and the receiving module, for transforming an electrical audio signal transmitted from a communicating network into the remote audio signal, transmitting the transformed local audio signal from the electrical signal to the communicating network, allowing the user to communicate with a communicating terminal via the communicating apparatus through the communicating network, wherein the control unit operates in a duplex method, and the control unit filters echo signals.

Claim 9. (original) The communicating apparatus as recited in claim 8, wherein the remote audio signal propagates within a predetermined range along a predetermined direction, and the receiving module is spatially excluded from the predetermined range.

Claim 10. (original) The communicating apparatus as recited in claim 8, wherein the output module comprises:

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a pre-compensating unit, for compensating the remote audio signal in a preceding stage;  
an ultrasonic modulating unit, for providing an ultrasonic carrier wave;  
an amplitude modulating unit, coupled to the pre-compensating unit and the ultrasonic modulating unit, for receiving the compensated remote audio signal and the ultrasonic carrier wave, so as to carry the remote audio signal with the ultrasonic carrier wave;  
a power amplifier, for receiving an output of the amplitude modulating unit; and  
a directional ultrasonic beam transmitting device, for transmitting the ultrasonic carrier wave to the user, wherein the ultrasonic carrier wave is self-demodulated back to the remote audio signal through air.

Claim 11. (original) The apparatus as recited in claim 10, wherein the directional ultrasonic beam transmitting device comprises a plurality of acoustic transmitting units.

Claim 12. (original) The apparatus as recited in claim 8, wherein the communicating apparatus comprises at least one selected from a group consisting of a line telephone system, a cordless telephone system, a mobile phone system and an Internet telephone system.

Claim 13. (original) The apparatus as recited in claim 8, wherein the receiving module comprises a receiver.

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Claim 14. (currently amended) A communicating method for a communicating system generating low echo, comprising:

receiving a remote audio signal from a transmitting end through a communicating network;

transforming the remote audio signal into a directional audio signal for a receiving end which keeps a distance from a directional speaker that outputs the directional audio signal;

receiving a local audio signal received by a receiving terminal of the receiving end and filtering echo signals, wherein the directional audio signal does not propagate through the receiving terminal; and

transmitting the local audio signal to the transmitting end.

Claim 15. (original) The communicating method as recited in claim 14, wherein the directional audio signal propagates along a predetermined direction within a predetermined range.

Claim 16. (original) The communicating method as recited in claim 14, wherein the step of transforming the remote audio signal into the directional audio signal comprises transforming the remote audio signal to an ultrasonic carrier wave.

Claim 17. (original) The communicating method as recited in claim 16, wherein the ultrasonic carrier wave is self-demodulated back to the remote audio signal through air.